CLAIMS

What is claimed is:

1. A stent assembly comprising:

an upstream portion adapted to modify a flow characteristic of embolic material disposed in a blood stream flowing through said upstream portion; and

a downstream portion in fluid communication with said upstream portion and adapted for the blood stream to flow therethrough, said downstream portion comprising a trapping region for trapping therein said embolic material.

2. The stent assembly according to claim 1 wherein said downstream portion extends from said upstream portion.

3. The stent assembly according to claim 1 wherein said downstream portion is distanced from said upstream portion.

4. The stent assembly according to claim 1 wherein said upstream portion comprises a cross-sectional area that varies along an axial portion of said stent assembly.

5. The stent assembly according to claim 1 wherein said downstream portion comprises a cross-sectional area that varies along an axial portion of said stent assembly.

6. The stent assembly according to claim 1 wherein said upstream portion comprises a downstream convergence.

7. The stent assembly according to claim 1 wherein said trapping region has a greater cross-sectional area than a downstream end of said upstream portion.

8. The stent assembly according to claim 1 wherein said trapping region comprises a divergent portion of said downstream portion.

9. The stent assembly according to claim 1 wherein said trapping region is in an upstream portion of said downstream portion.

10. The stent assembly according to claim 1 wherein said upstream portion comprises at least one of a meshwork and a plurality of coils.

11. The stent assembly according to claim 1 wherein said at least one of a meshwork and coils has a coverage that varies along an axial portion of said stent assembly.

12. The stent assembly according to claim 1 wherein said at least one of a meshwork and coils has a thickness that varies along an axial portion of said stent assembly.

13. The stent assembly according to claim 1 wherein said at least one of a meshwork and coils is adapted to impart a radial force to a lumen in which said stent assembly is placeable, wherein said radial force varies along an axial portion of said stent assembly.

14. The stent assembly according to claim 1 and further comprising a restrictor element disposed in at least one of said upstream and downstream portions, said restrictor element being adapted to limit expansion of said at least one of said upstream and downstream portions.

15. The stent assembly according to claim 1 wherein at least one of said upstream and downstream portions comprises an anti-thrombogenic agent.

16. The stent assembly according to claim 1 wherein at least one of said upstream and downstream portions comprises a thrombogenic agent.

17. The stent assembly according to claim 1 wherein at least one of said upstream and downstream portions comprises a friction-enhancing material.

18. The stent assembly according to claim 1 wherein at least one of said upstream and downstream portions comprises a friction-reducing material.

19. The stent assembly according to claim 3 wherein said upstream portion is placeable in a blood vessel upstream of a bifurcation in a blood vessel system, said bifurcation comprising a first downstream path and a second downstream path, said downstream portion being placeable in said second downstream path, and a space between said downstream portion and said upstream portion is alignable with said bifurcation, such that blood flows to both said first and second downstream paths with embolic material being trapped in said trapping region.